

INDIANA PUBLIC RETIREMENT SYSTEM

Understanding Indiana's Largest Pension System

December 2, 2016



Funds Overview

The Indiana Public Retirement System (INPRS) includes the two largest public retirement plans in the state. These plans trace their existence back more than a generation to the early and middle parts of the 20th Century. The Indiana State Teachers' Retirement Fund (TRF) was created in 1921 and the Indiana Public Employees' Retirement Fund (PERF) was created in 1945. In 2011, the Indiana General Assembly integrated the management of the two systems under INPRS. Combined, the integrated system includes nine separate retirement funds, representing more than 215,000 active members and approximately 145,000 benefit recipients.

System Membership: Active & Retired

Fund	Active Members	Benefit Recipients
PERF	131,178	83,188
TRF (1996)	55,265	4,977
TRF (Pre-1996)	14,327	52,575
1977 Police Officers' and Firefighters' Pension and Disability Fund	13,506	4,004
State Excise Police, Gaming Agent, Gaming Control Officer and Conservation Enforcement Officers' Retirement Plan	421	220
Judges' Retirement System	394	351
Prosecuting Attorneys' Retirement Fund	197	133
Legislators' Retirement System - Defined Benefit Plan	11	74
Legislators' Retirement System - Defined Contribution Plan	150	N/A
TOTAL	215,449	145,522

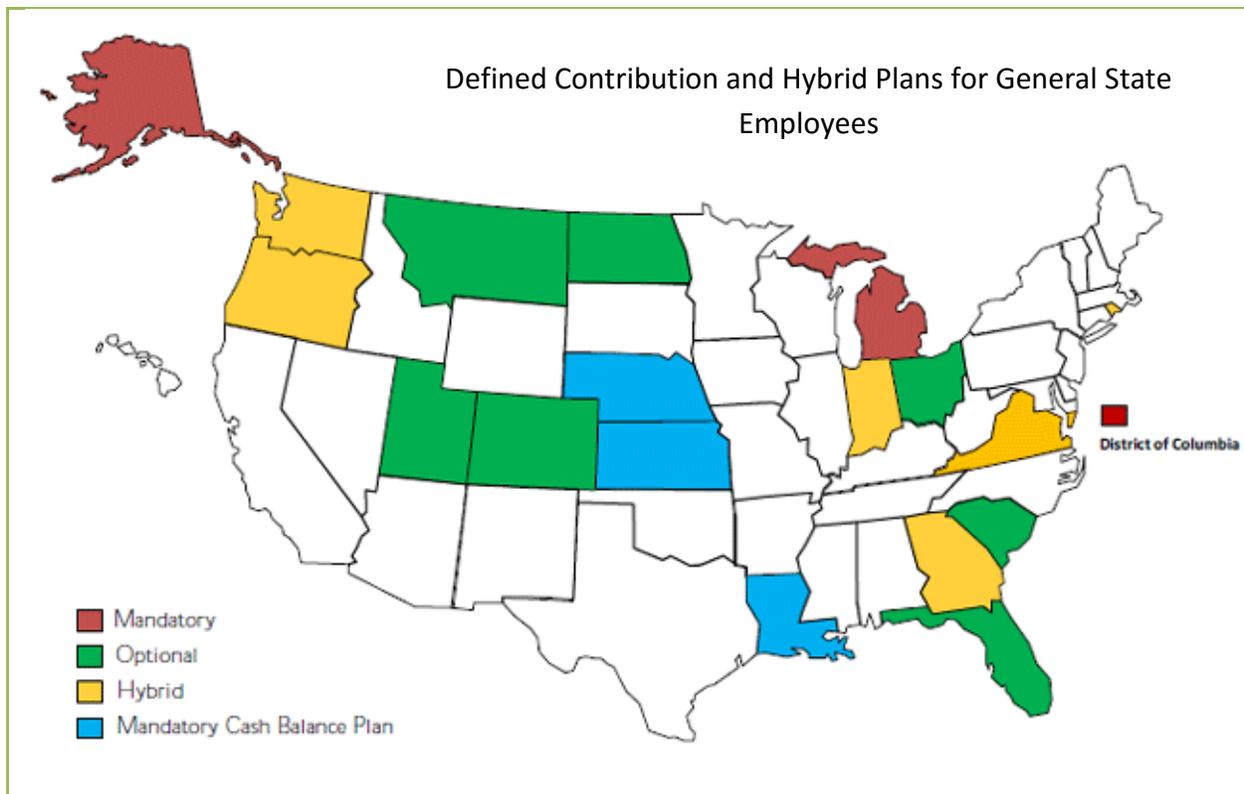
Source: [Actuarial valuations](#) as of June 30, 2016

In addition to the funds noted above, INPRS manages the Pension Relief Fund, created by the Indiana General Assembly in 1980 to address the unfunded pension obligations of the police officers' and firefighters' pension systems of Indiana's cities and towns. Administered by the INPRS Board of Trustees, this fund derives its revenues from a portion of cigarette and alcohol taxes and investment income earned on them. A fixed distribution formula provides for relief payments two times per year, and is based on the number of retirees and amount of benefits paid the previous year.

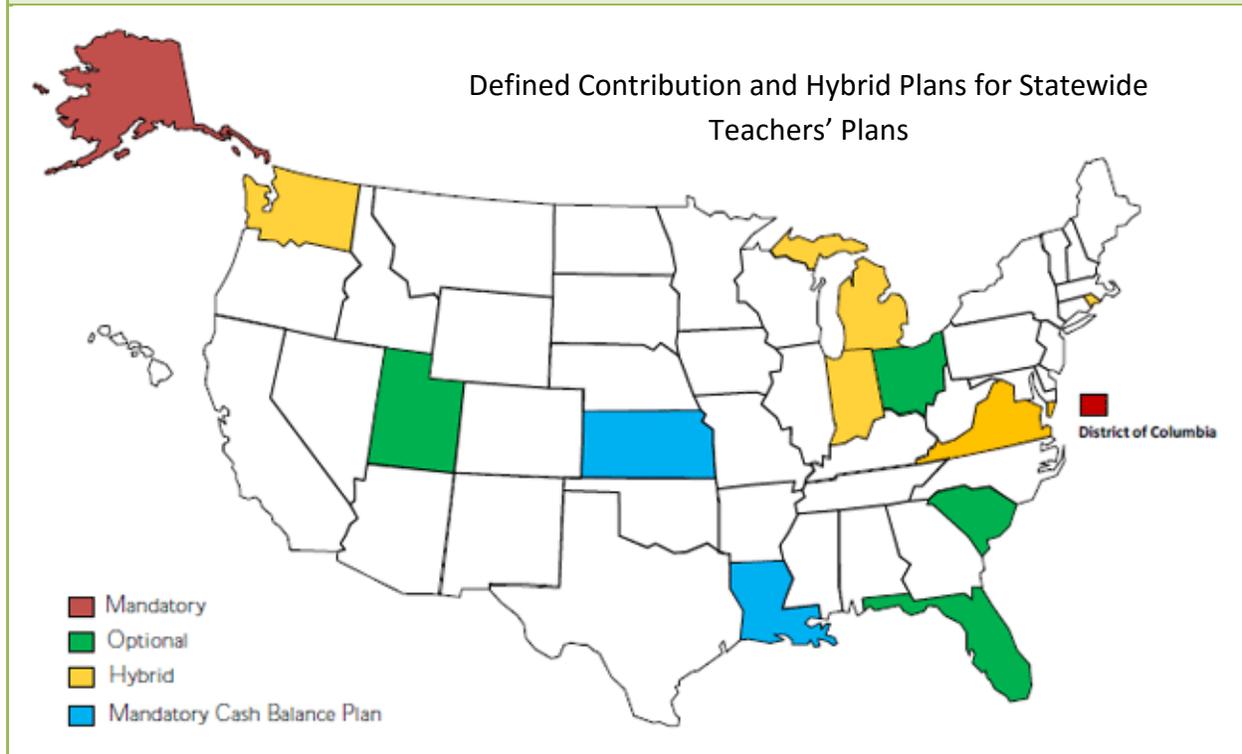
INPRS is not responsible for the administration of those local pension funds addressed by the Pension Relief Fund. Those local funds have been closed to new membership since the creation of the 1977 Police Officers' and Firefighters' Pension and Disability Fund.

Hybrid Plans: Members Share Risk

Both PERF and TRF are hybrid plans in which both the employer and member have funds at risk. While the Defined Benefit (DB) pension plan places the financial risk of funding a potential lifetime benefit on the employer, an Annuity Savings Account (ASA), similar to Defined Contribution (DC) plans available via 403(b) and 401(k) plans, places the risk on members. While this concept is considered innovative and cutting edge¹, it has been part of the Indiana system for a generation. In this system, employers pay a mandatory contribution rate to fund the members' potential DB plan benefit that, when eligible, will provide a member a fixed benefit for life based on average pay and years of service. In addition, Indiana law requires PERF and TRF members to contribute a minimum of three percent of salaries to individual ASAs. This contribution may be made by the employer, the member, or shared by both. Members make the investment decisions in their ASAs, selecting from options ranging from a Stable Value Fund to a range of target date funds. Increases or losses in the ASA account impacts the member, but not employers.



Source: National Conference of State Legislatures²



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Actuarially Funded vs. Pay-As-You-Go

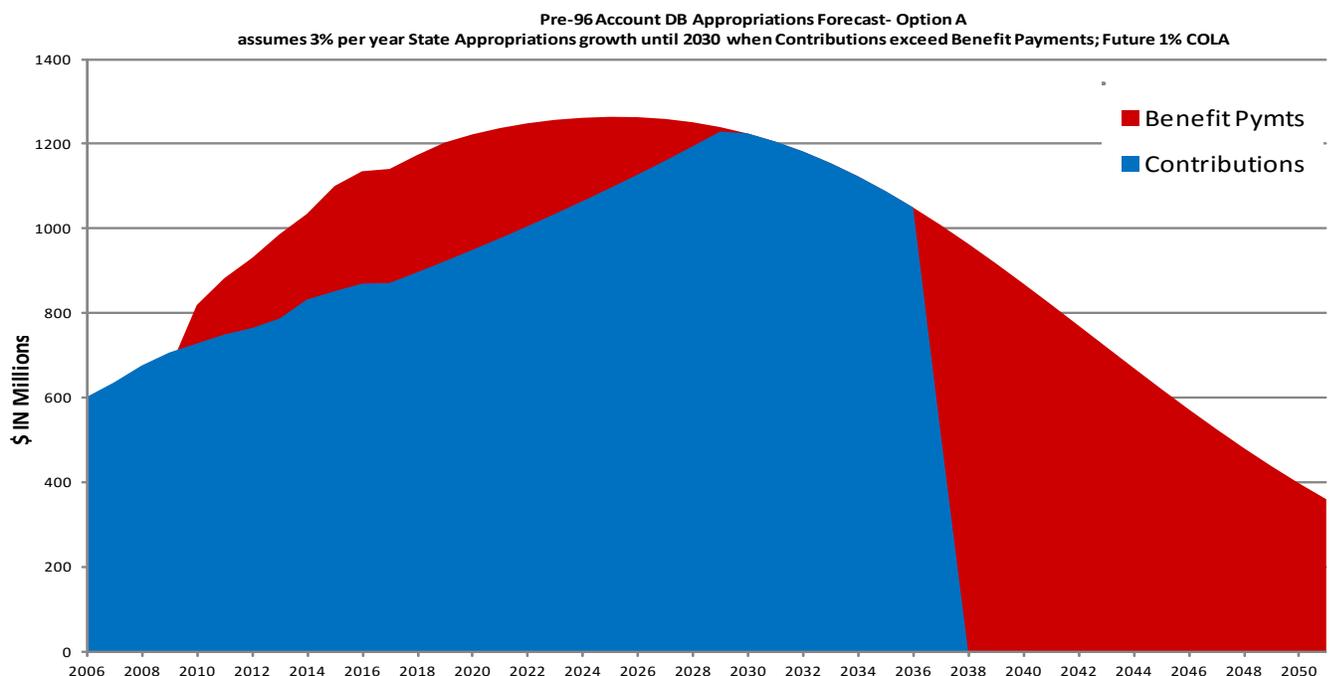
Pension plans at INPRS are funded in one of two ways. First, the main PERF plan as well as the 1996 TRF fund are actuarially funded, meaning money is set aside today to fund projected benefits years in the future. Actuaries, using data ranging from gender and age, to compensation and likely investment returns, project the amount benefit payouts will be years in the future. This allows them to project what funding must be set aside today to fund the future benefit. Funded status reported for an actuarially funded plan is the difference between the accrued liability and the actuarial value of assets. Often this number is reported as a percent.

TRF's pre-1996 fund is a pay-as-you-go plan that has been in place since 1921. It is not pre-funded and its funding status is low by design. Typically in pay-as-you-go plans no funds are set aside today to fund projected benefits years in the future. Instead, these plans are funded in the year the benefit payment is provided to the member. The federal Social Security system is pay-as-you-go. Reporting a funded status percent for pay-as-you-go plans is misleading, as these plans are not actuarially funded.

Pension Stabilization Fund

In the case of Indiana TRF, the state's General Assembly recognized potential risks of the pay-as-you-go approach and, in 1995, established the Pension Stabilization Fund (PSF) to protect TRF retirees against any disruption in payments and to smooth out payments from the state as the baby boomer generation retires. At that time, the pre '96 plan was closed to new entrants and the actuarially funded 1996 fund was established for all new members.

The PSF was initially funded from \$425 million of employer reserves from the Pre-1996 Account. By law, additional contributions come from the Indiana State General Fund, the Indiana State Lottery, interest earned from the investment of PSF assets and a provision that directs 50 percent of state reserve balances above 10 percent of appropriations into the PSF. State law does not allow the PSF balance to be negative. At the fiscal year ending June 30, 2016, the Pension Stabilization Fund's assets were \$2.7 billion.



System Funded Status: 6/30/2016

Fund	AVA Funded Status %
TRF 1996 Account	91.8%
PERF	79.1%
1977 Police Officers' and Firefighters' Pension and Disability Fund	104.3%
Judges' Retirement System	93.7%
State Excise Police, Gaming Agent, Gaming Control Officer and Conservation Enforcement Officers' Retirement Plan	85.3%
Prosecuting Attorneys' Retirement Fund	66.4%
Legislators' Retirement System - Defined Benefit Plan	80.7%
Aggregate Pre-Funded Plans	86.1%
TRF Pre-1996 Account (Pay-As-You-Go)	29.7%
Nationally, state pension plans were funded at about 74 percent according to the <i>2016 Wilshire Report on State Retirement Systems</i> .	

Standard & Poor's *Global Credit Report* (June 21, 2012) found that, in Indiana, total unfunded state pension liabilities then of \$13.7 billion (80 percent represents the closed TRF plan) translate to a below-average \$2,108 per capita and 6.1 percent of personal income.⁶

Actuarially Determined Contribution

The actuarially determined contribution (ADC) is the amount an employer is required to contribute each year to fund the plan liabilities over time. The ADC, in effect, recognizes that pension benefits are "earned" and are financial obligations accrued during an employee's entire period of service. The ADC is the annual amount the plan would have to pay to fund its liabilities over time.

Moody's Investor Service analyst Ted Hampton³ reported in January, 2011 that pension underfunding across the nation had been driven by weaker-than-expected investment results, previous benefit enhancements, and, in some states, failure to pay the annual required contribution to the pension fund.

Both the PERF and TRF systems have a long and solid track record of paying the ADC as required for plan health and stability.

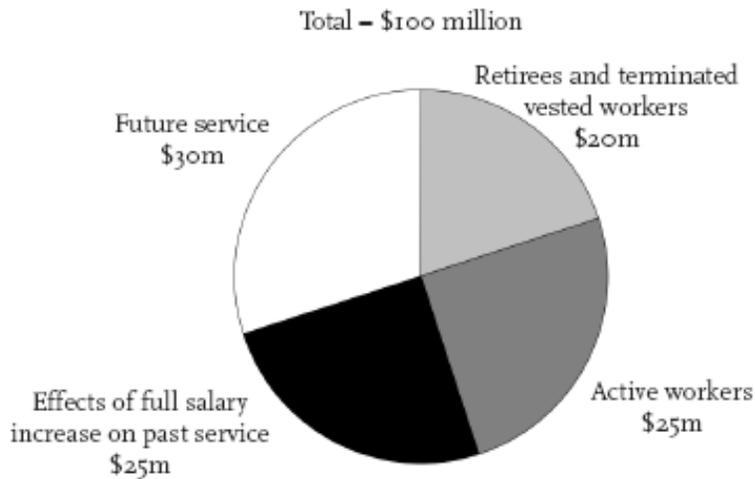
Actuarial Assumptions

The amount of funding that INPRS pension funds must set aside each year for future benefits is driven by the work of actuaries assisting the funds by determining how costs should be allocated to a particular year. Not all pension funds' actuaries use the same actuarial cost method, as noted in the information (next page⁴) from the Center for Retirement Research at Boston College.

The precise amount of money that state and local plans need to put aside each year depends on how the actuaries allocate costs to a particular year — that is, it depends on the actuarial cost method adopted. In order to appreciate the differences between cost methods, a useful starting place is the total amount of benefits that the plan sponsor ultimately will have to pay for past and current employees.

Figure 2 shows the present value of projected benefits for a hypothetical entity. The total value of projected benefits of \$100 million consists of four major components. The first (\$20 million) is the value of benefits earned to date by retired employees, including employees who have left the company with vested pension rights and who have not yet begun to collect benefits. The second major component (\$25 million) is the value of pension obligations to active employees based on their current salaries and years of service. The next portion (\$25 million) represents the effect of future salary increases on the value of pension rights already earned by active workers. The final portion (\$30 million) represents the benefits that will be earned by current employees over the remainder of their work lives.

FIGURE 2. PRESENT VALUE OF PROJECTED BENEFITS



Source: Authors' illustration.

Under the projected unit credit approach, the dominant costing method in the private sector (see Table 1), the firm's total liability will be \$70 million. No account is taken of credits that current workers will gain through future service. The entity's normal cost in a given year is the value of additional pension benefits that each employee earned in that year based on his projected salary at retirement. If the benefit formula and salary projections remain unchanged, the additional pension benefits each employee earns in subsequent years will also remain unchanged. The cost of that benefit, however, will rise as workers approach retirement and annual pension contributions have less time to accumulate investment earnings. So employers with an aging workforce that use this costing method will see their annual contribution rise over time.

TABLE 1. PERCENT OF LARGE PRIVATE SECTOR AND PUBLIC SECTOR PLANS USING ALTERNATIVE ACTUARIAL METHODS, 2006

Actuarial cost method	Private sector	Public sector
Projected unit credit	74 %	14 %
Entry age normal	19	70
Other	7	16

Sources: Watson Wyatt Worldwide (2006); and National Association of State Retirement Administrators, *Public Fund Survey (PFS)*, 2006.

Plan Health: Comparing Apples to Oranges

Two key factors having a significant influence on the reported actuarially funded status for a plan include Assumed Investment Return (AIR) and Cost of Living Adjustments (COLA). If a plan assumes there will be an annual COLA, this is built into the actuarial assumptions with the result being higher actuarial liabilities. If a plan assumes a higher investment return rate, the result can again impact projected liabilities.

Assumed Rate of Return

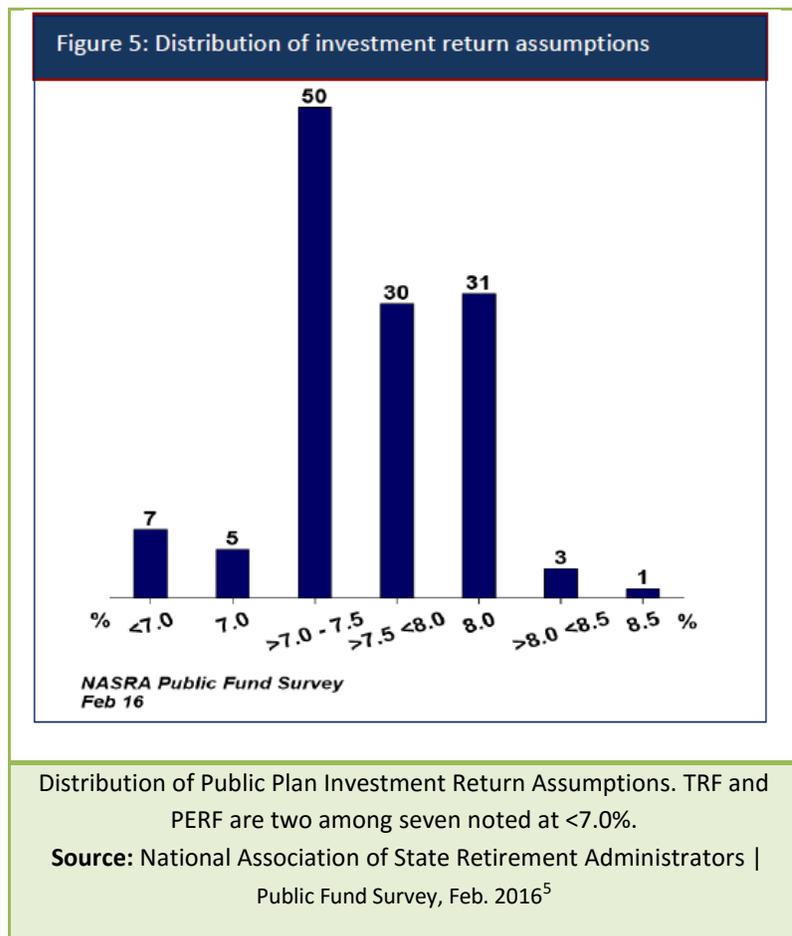
The Indiana Public Retirement System (INPRS) is among those with the most conservative investment return assumptions in the nation, according to the annual [Public Fund Survey](#)⁷ that tracks 127 public pensions.

In June 2012, INPRS board members approved an assumed rate of return of 6.75 percent, down from 7 percent. INPRS is now one of the few state systems below 7 percent, according to survey data.

An assumed rate of return is what is considered achievable in the long-term for pension fund investments. It recognizes that some years may be significantly better or worse, but will average the assumed rate over many years.

Among 127 plans, more than one-half have reduced their investment return assumption since fiscal year 2008. The average return assumption is 7.62 percent, according to a report by the [National Association of Retirement System Administrators](#)⁵ (NASRA).

Higher assumed returns on investment means employers may contribute less to properly fund a pension.



An artificially high assumed rate of return can make a plan appear healthier on paper, and allow lower employer contribution rates. However, if pension systems do not achieve the assumed return in the long-term, a significant financial problem may be created.

Net pension liability is sensitive to changes in the discount rate, and to illustrate the potential impact the following table presents the net pension liability of each defined benefit pension plan calculated using the discount rate of 6.75 percent, as well as what each plan's net pension liability would be if it were calculated using a discount rate that is one percentage point lower (5.75 percent), or one percentage point higher (7.75 percent) than the current rate:

Pension Liability: Return Assumption Sensitivity			
Pre-Funded Defined Benefit Pension Trust Funds	1% Decrease (5.75%)	Current Discount Rate (6.75%)	1% Increase (7.75%)
PERF	\$ 6,518,281.0	\$ 4,538,445.0	\$ 2,892,901.0
TRF 1996 Account	\$ 1,737,603.0	\$ 780,520.0	\$ 15,494.0
1977 Fund	\$ 907,182.0	\$ 88,837.0	\$ (571,476.0)
JRS	\$ 117,520.0	\$ 59,335.0	\$ 10,549.0
EG&C Plan	\$ 46,676.0	\$ 27,636.0	\$ 12,008.0
PARF	\$ 42,865.0	\$ 32,241.0	\$ 23,483.0
LEDB Plan	\$ 1,398.0	\$ 1,096.0	\$ 832.0
Pay-As-You-Go Defined Benefit Pension Trust Fund			
TRF Pre-1996 Account	\$ 13,630,767	\$ 12,052,671	\$ 10,707,809

Conclusion

Many researchers rely on actuarial data supplied by public records requests or pulled from plan annual reports from throughout the nation. It is essential that the researcher understand – before comparing data – that there may be significant differences in the underlying assumptions that generated the numbers.

Ultimately, conservative actuarial assumptions avoid artificially low employer contributions, prevent the publishing of an artificially positive funded status, and lead to more stable and sustainable retirement systems.

Citations

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- ⁶ Standard & Poor's. "Global Credit Report" Available from http://www.standardandpoors.com/spf/upload/Ratings_US/The_Decline_In.pdf; accessed 15 January 2014
- ⁷ www.publicfundssurvey.org
- ⁸ Novy-Marx, Robert and Rauh, Joshua D., "The Revenue Demands of Public Employee Pension Promises." May 2, 2012, 62. Available at <http://ssrn.com/abstract=1973668> or <http://dx.doi.org/10.2139/ssrn.1973668> Internet; accessed 1 December 2014
- ⁹ Wilshire Consulting. "Wilshire Consulting Reports 74 Percent Funding Ratio for State-Sponsored Defined Benefit Retirement Systems." March 1, 2016. Available from <http://wilshire.com/Portals/0/press/consulting/2016/wilshire-consulting-2016-state-funding-report-news-release.pdf> Internet; accessed 1 December, 2016